

Bacterial Spores

CHALLENGES AND FUTURE DIRECTIONS FOR BIODEFENSE

November 14 – 16, 2004

Argonne National Laboratory, Argonne, Illinois

Schedule

Day 1

- 12:00 - 6:00 pm: Attendees arrive at Argonne National Laboratory, check in at the Argonne Guest House, Bldg. 460
- 6:00 - 7:00 p.m. Registration in the atrium of Building 402 at Argonne.
- 6:00 - 7:00 pm: Reception w/ refreshments, poster viewing opportunity in the Gallery, Building 402
- 7:00 - 8:00 pm: Opening remarks and keynote address by Dr. Arthur Friedlander, United States Army Medical Institute of Infectious Diseases (USAMRIID).
- His talk is entitled, "Anthrax: clinical features, pathogenesis, prophylaxis and treatment".
- 8:00 pm: Continued poster viewing opportunity in the Gallery of Building 402

Day 2

- 7:30 am: Registration in the atrium of Building 402 at Argonne
- 7:30 - 8:30 am: Breakfast in the Gallery of Building 402

Special Session: The role of NIH-sponsored Research Centers in biodefense.

- 8:30 - 9:00 am Dr. Olaf Schneewind, University of Chicago: Overview of the Greater Lakes Regional Center of Excellence.
- Dr. Schneewind will describe the Regional Center of Excellence, of which he is director, and the facilities at the University of Chicago and Argonne National Laboratory for the support of biodefense research.

Session I. Biological basis of spore function: Physiology and the formation of spore-protective structures.

- 9:00 - 10:00 am: Dr. Peter Setlow, University of Connecticut Health Center. His talk is entitled "Spores of *Bacillus* species; their formation, structure, dormancy, resistance and germination.

10:00 - 11:00 am: Dr. Adam Driks, Loyola University Medical Center.

10:30 - 11:00 am: "From Structures to Superstructures: Assembly of the Bacillus Spore Coat"
Coffee break

11:00 - 12:00 pm: Dr. Paul Jackson, Los Alamos National Laboratory. His talk is entitled "Phylogenetic analyses of *B. anthracis* and its close relatives - similarities and differences."

12:00 - 1:00 pm: Lunch in the Gallery of Building 402

2:30 - 3:00 pm: Coffee Break in the Gallery of Building 402

1:00 - 3:30 pm: Poster session in the Gallery of Building 402

Session II. Current approaches to spore detection

3:30 - 4:00 pm: Dr. Philip Hargis, Sandia National Laboratory. His talk is entitled "Advanced Detection Concepts Based on Ultraviolet Fluorescence Spectroscopy of Bacillus Spores."

4:00 - 4:30 pm: Dr. Sergei Bavykin, Argonne National Laboratory. His talk is entitled "USiMi-Column as a Universal Tool for Microarray Nucleic Acid Sample Preparation from Spores and Vegetative Cells."

5:00 - 5:30 pm: Dr. Eric Gard, Lawrence Livermore National Laboratory. His talk is entitled "The Challenges, Advantages, and Progress in Developing a Real-Time Bio-Aerosol Identification System."

5:30 - 6:00 pm: Dr. David Wunschel, Pacific Northwest Laboratory. His talk is entitled "Culture Dependent Variability in *Bacillus* Spore Protein Composition Visualized by a Combination of Capillary HPLC and Matrix Assisted Laser Desorption/Ionization Mass Spectrometry."

6:15 - 8:15 pm: Dinner at the Argonne Guest House

8:30 - 9:30 pm: Dr. John Ezzell, United States Army Medical Institute of Infectious Diseases (USAMRIID).

His talk is entitled "Bad news/Good news - It's anthrax spores."

9:30 - 10:30 pm: Poster session in the Gallery of Building 402

Day 3

7:30 - 8:30 am Breakfast in the Gallery of Building 402

Session III. Spore detection devices.

8:30 - 9:00 am: Dr. Peter Emanuel, Critical Reagents Program, DOD. His talk is entitled "The Production of Bacterial Spore Reference Materials and it's use with Currently Fielded Methods for Bacterial Spore Detection."

9:00 - 9:30 am: Dr. Joan Gebhardt, Biological Defense Research Directorate, Naval Medical Research Center.

Dr. Gebhardt will discuss practical approaches to agent detection.

Session IV. Current approaches to spore destruction.

9:30 - 10:00 am: Dr. Greg Knudson, Senior Scientist, Biotechnology Center, Washington D.C. His talk is entitled "Radiation and Chemical Inactivation of *Bacillus anthracis* Spores and Surrogates."

10:00 - 10:30 am Dr. Daniel Martin, Dugway Proving Grounds. His talk is entitled "Observations on Testing with Spores from Dugway Proving Ground."

10:30 - 11:00 am Dr. Carol L. Sabourin, Battelle Memorial Institute. Her talk is entitled "Standardized Tests for Decontamination of Biological Materials: Evaluation of Liquid and Gaseous Decontaminants Against *Bacillus anthracis* Spores."

11:00 - 11:30 am: Coffee break in the Gallery of Building 402

Session V. Biodefense and homeland security and forensics.

11:30 - 12:00 pm: Dr. Alex Malkin, Lawrence Livermore National Laboratory. His talk is entitled "The high-resolution architecture and structural dynamics of *Bacillus* spores."

12:00 -12:30 pm: Dr. Michael McLoughlin, Homeland Security Advanced research Projects Agency (HSARPA).

12:30 Dr. McLoughlin will discuss ongoing projects at HSARPA and future needs
Closing remarks

12:45 - 1:45 pm: Lunch in the Gallery of Building 402